**Biofest 2017 – First Information Packet**

Mrs. Krouse, Pre-AP Biology



**What is Biofest?**

Biofest is a project that all 9th and 10th grade students in the Biotechnology program at Osbourn Park High School complete. Biofest projects consist of two parts—a brochure completed individually and a group presentation. I will select the group with the best presentation to continue on to Biofest, an after-school event in which you present to your family members, middle school students, etc. Students will receive Biotech hours for presenting at Biofest.

**Essential Information:**

Our group topic is: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

My subtopic is: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Dates to Know:**

Dates to Know:

* Brochure Due Date: January 3-4 (depending on which day is a Gold Day)

*If you will be absent this day due to prior arrangements, you may email me your brochure. It must be emailed by the time at which your class normally starts. You must still turn it in on paper the day you return to class.*

* Class Presentations: January 20-23 (depending on which days are Gold Days)

*You should be prepared to present on the first day of the class presentations.*

*If you are absent the day your group presents, you will present the ENTIRE project on your own after school one day that week.*

* Biofest: February 9th from 6:30-8:30 PM.

*You will probably need to arrive about 30 minutes early to set up your presentation.*

**Partner Contact Information:**

Complete the chart below for each of your group members. Being in contact throughout the entire project is key to your success on this project.

Partner Contact Information:

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Phone: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Phone: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Email: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Email: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Subtopic: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Subtopic: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Phone: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Phone: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Email: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Email: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Subtopic: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Subtopic: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Biofest Topics**

**TOPIC 1: Genetically Modified Organisms- Plants**

**Essential information to be included in Panel D of the brochure by ALL group members:**

1. Describe what a genetically modified organism is. Provide 2-3 specific plant examples that are not in the subtopic list given below.
2. Detail one potential method/technique for the development of genetically modified plants.

**Subtopics (Panel E of the brochure):** Golden rice, Bt crops, Flavr Savr Tomato, Arctic Apple

**TOPIC 2: Genetically Modified Organisms- Animals**

**Essential information to be included in Panel D of the brochure by ALL group members:**

1. Describe what a genetically modified organism is. Provide 2-3 specific animal examples that are not in the subtopic list given below.
2. Detail one potential method/technique for the development of genetically modified animals.

**Subtopics (Panel E of the brochure):** Spider goat, EnviroPig, GloFish, Popeye Pigs

**TOPIC 3: Genetic Screening**

**Essential information to be included in Panel D of the brochure by ALL group members:**

1. Describe the tests can be done on humans to identify disorders and diseases.
2. Provide examples of genetic disorders that scientists can test for.
3. Discuss the accuracy of these tests.

**Subtopics (Panel E of the brochure):** Screening of embryos prior to in-vitro fertilization, amniocentesis during pregnancy, gene therapy as a treatment option for people with genetic disorders, carrier screening

**TOPIC 4: Vaccinations**

**Essential information to be included in Panel D of the brochure by ALL group members:**

1. Explain what a vaccination is
2. Compare the different types of vaccinations and how they work.
3. Discuss current scientists’ ideas for the development of new types of vaccines

**Subtopics (Panel E of the brochure)**: Students should examine the development of the polio vaccine, influenza vaccine, HPV vaccine, or MMR vaccine. Specifically, students should investigate how the vaccine works and why should we vaccinate against the illness.

**TOPIC 5: Antibiotic Resistance**

**Essential information to be included in Panel D of the brochure by ALL group members:**

1. Define antibiotic and explain how and why antibiotic resistance occurs
2. Discuss the implications and concerns regarding antibiotic resistance.

**Subtopics (Panel E of the brochure):**  [Antibiotic-Resistant *Mycobacterium tuberculosis* (TB)](https://www.niaid.nih.gov/topics/tuberculosis/understanding/whatistb/pages/tbdefinitions.aspx), [Methicillin-Resistant *Staphylococcus aureus* (MRSA)](https://www.niaid.nih.gov/topics/antimicrobialresistance/examples/mrsa), [Vancomycin-Resistant *Enterococci* (VRE)](https://www.niaid.nih.gov/topics/antimicrobialresistance/examples/vre), What can be done to combat antibiotic resistance?

**TOPIC 6: DNA Profiling**

**Essential information to be included in Panel D of the brochure by ALL group members:**

1. Explain how to create a DNA profile/fingerprint using gel electrophoresis.
2. Identify several uses for such a technology.

**Subtopics (Panel E of the brochure):** UsingDNA fingerprinting for paternity testing, using DNA fingerprinting for forensic science, using DNA fingerprinting for diagnosis of genetic diseases, creating a DNA database

**TOPIC 7: Cloning**

**Essential information to be included in Panel D of the brochure by ALL group members:**

1. Describe what cloning is.
2. Detail the types and uses of cloning.

**Subtopics (Panel E of the brochure):** Gene cloning using bacteria, reproductive cloning (aka whole organism cloning), therapeutic cloning to make stem cells, history of cloning

**TOPIC 8: Medical Uses of Biotechnology**

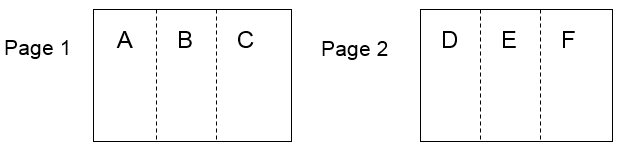
**Essential information to be included in Panel D of the brochure by ALL group members:**

1. Describe several ways that biotechnology can be used in medicine. You can discuss the other subtopics in this section. Do not go into a lot of detail about your subtopic in Panel D because you will do this in Panel E.

**Subtopics (Panel E of the brochure):** The use of animal tissues to treat human diseases, the use of bacterial transformation to make medicines, the use of 3D printing for organ creation, the Vacanti mouse, pharmacogenomics

**Biofest Brochure: Description**

**Description:**For this Biofest component, you will create an individual brochure about the group topic and your personal subtopic. You can use Microsoft Publisher or Microsoft Word to create your brochure, but it must appear professional and contain valuable information. Below is an image of a brochure created in Microsoft Word using 3 columns per page. Pages 1 and 2 are printed back-to-back. When page 1 comes out of the printer, simply take the page out and place it back in the input tray before printing page 2. Do not flip it or turn it in any way. I would prefer if you printed the brochure in color, but it can be printed in black and white if necessary. Requirements for each “panel” of the brochure are given below.



**Panel A –**

Clearly identify three legitimate resources the audience can use to learn more about the overall topic and your subtopic. (You cannot include Wikipedia as one of your resources.) These resources can be from your works cited page (see Panel B).

Describe the information that each resource provides about the overall topic or your subtopic in 2-3 clearly-written sentences (6-9 sentences total).

**Panel B –**

Create a works cited page in correct MLA format

This works cited page should include five legitimate resources about the overall topic and your subtopic. (You cannot include Wikipedia as one of your resources).

One resource must be a print source (i.e. a book)

**Panel C –**

This is your title page for your brochure. On this title page, you must include the following things…

The name of your subtopic in large font and the name of your group topic in small font below

An image related to your subtopic. You must provide a caption below the image explaining how this picture relates to your subtopic. Below the image, you should also write “image courtesy of…” and provide the URL address of the web site where you got the image. For both your caption and image citation, use small font!

The Osbourn Park Biotechnology Center logo (you can copy and paste this from the first page of this packet).

Your full name

**Panel D –**

On this page, you will include information about the overall group topic. On this page, you must include the following things…

The name of your group topic as a title at the top of your page

Information about your group topic in paragraph form. You CANNOT use a bulleted list. You must write at least two paragraphs (4-5 sentences each), and include all components from the “essential information to be included in Panel D of the brochure by ALL group members” section under your topic heading (pages 2-3 of this packet).

**Panel E –**

On this page, you will include information about your personal subtopic. On this page, you must include the following things…

The name of your personal subtopic as a title at the top of the page

A 2-3 sentence explanation of how your subtopic relates to the overall group topic.

10 facts about your subtopic in paragraph form. You CANNOT use a bulleted list. Your ten facts must be part of at least two paragraphs (4-5 sentences each). The ten facts must be clearly connected to one another in your paragraphs.

**Panel F –**

On this page, you will include a chart or graph related to the overall group topic or your personal subtopic (examples will be shown in class). Below the chart or graph, you must write “chart / graph courtesy of…” and provide the URL address of the web site where you got the chart or graph in small font. Please make sure that your chart / graph includes a title. If it does not, please create your own logical title for the chart / graph.

In 4-5 sentences, describe what the chart/graph is showing, identify / explain any trends or patterns seen in the data shown in the chart/graph, and explain how the chart/graph relates to the overall group topic or your personal subtopic.

**General Requirements –**

All the information in the brochure is appropriate for a school audience. You have made a clear effort to present the information in an objective manner (i.e., without bias or opinion).

Your brochure has proper spelling and grammar.

The brochure has been completed on the computer (i.e., not handwritten) and is neatly done.

The brochure has been printed on one piece of paper, and the panels are in the correct locations.

The brochure has been turned in ON TIME. Each calendar day that this brochure is not turned in after the due date will result in a 10% deduction from the total grade. If you come in late to school, you must turn it in before the end of the day or this will be considered a late day.

***The brochure is in your OWN words. Directly copying work from a group member or any print or internet source is considered plagiarism. As a general guideline, any full sentence taken from elsewhere is my threshold for plagiarism. That said, simply changing one or two minor words in the sentence may not fix the issue of plagiarism. If you are having trouble summarizing or rewording information from a source, please ask me (Mrs. Krouse) to help you! If you have plagiarized any part of your brochure, you will receive a zero for your overall brochure grade. I will also write a referral to your alpha administrator, who will assign you an additional consequence.***

**Biofest Brochure: Rubric**

Your brochure will be graded using the following rubric…

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Requirements** | **Teacher Comments** | **Points Earned** |
| Panel A | -You have clearly identified three legitimate resources  -You have clearly described the information that each resource provides about the overall topic or your subtopic in 2-3 sentences |  | /5 |
| Panel B | -You have included five legitimate resources  -One of these resources is a print source (i.e. a book)  -Your works cited page is in correct MLA formatting |  | /5 |
| Panel C | -You have included the following information: subtopic, group topic, your name, the Osbourn Park Biotechnology center logo, and an image related to your subtopic with image citation  -Your image caption clearly and accurately describes how this image relates to your subtopic |  | /5 |
| Panel D | -You have included your group topic name as a title  -You have written at least two paragraphs (4-5 sentences each) that clearly and accurately provide information about your group topic.  -You have included all components from the “essential information to be included in Panel D of the brochure by ALL group members” section under your topic heading (pages 2-3 of this packet) |  | /10 |
| Panel E | -You have included your subtopic name as a title  -You have written at least two paragraphs (4-5 sentences each) that clearly, thoroughly, and accurately provide information about your subtopic.  -Your two paragraphs must include at least ten facts that you have clearly connected to one another. |  | /10 |
| Panel F | -You have included a chart or graph (with citation and logical title) that is easy to see and is directly related to your group topic or subtopic.  -In 4-5 sentences, you have clearly and accurately…   1. explained what the chart/graph is showing 2. identified / explained any trends or patterns seen in the data shown in the chart/graph 3. explained how the chart/graph relates to the overall group topic or your personal subtopic |  | /10 |
| General Requirements | -Your brochure is…   1. appropriate for a school audience 2. objective (not biased) 3. written with proper spelling and grammar 4. printed from the computer (not handwritten) on one piece of paper with all panels in the correct locations 5. in your own words (you will receive an overall grade of zero for plagiarism) 6. turned in on time (10% grade deduction for each late day) |  | /5 |

**Total Score: \_\_\_\_\_/50 points**